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## (54) PRESSURE SENSOR

## (57) Abstract:

**PURPOSE:** To measure the pressure accurately even under a high humidity by coupling a molecule having a hydrophobic radical with a molecule or atom which constitutes the exposed surface of insulative members forming a gap with respect to a diaphragm.

**CONSTITUTION:** A diaphragm 1 consisting of a certain material, for example mono-crystal silicon, is joined with a pair of insulative members 2, 2' oppositely positioned in a large wall thickness part 1a. Thereby, the diaphragm 1 is pinched by the insulative members 2, 2' in the state that a gap is formed between the diaphragm and the members 2, 2' at a flat plate part 1b. A lead-in hole 4 for measuring pressure is formed in the gap in the members 2, while another

lead-in hole 5 for a reference pressure, for example the atmospheric pressure, for comparison with the measuring pressure is formed in the other member 2'. A molecule having a hydrophobic radical is coupled with at least a part of a molecules or atoms which constitute the exposed surface of each insulative member 2, 2' in the gap, and thereby, these surfaces are equipped with water repellency. One example of such a molecule having hydrophobic radical is a silane coupling agent.

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